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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,773	12/08/2000	Hidetoshi Kondo	MA-456-US	1175
21254	7590	09/29/2004	EXAMINER	
MCGINN & GIBB, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817			PEREZ DAPLE, AARON C	
			ART UNIT	PAPER NUMBER
			2154	

DATE MAILED: 09/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/731,773	Applicant(s) KONDO, HIDETOSHI	
	Examiner Aaron C Perez-Daple	Art Unit 2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/7/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Action is in response to Application filed 12/08/00.
2. Claims 1-16 are presented for examination.
3. This Action is non-Final.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 1-16** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-16 are replete with terms which lack proper antecedent basis. For example, in claim 1, the term “the speculative access” in line 8, the term “the tag memory” in line 9, the term “the tag information” in line 10, the term “the data storage status” in line 11, and the term “the data acquired” in lines 13-14 lack proper antecedent basis. In claim 2, the term “the speculative readout” in line 8, the terms “the tag memory” and “the tag information” in line 10, the term “the same data” in line 13, the term “the self node device” in line 17, and the term “the processor in the self node device” in line 23, lack proper antecedent basis. In claim 3, the term “the cache memory” in line 4 lacks proper antecedent basis because it is not clear to which of the previously recited “cache memories” the term applies. In claim 5, the term “the other node device” in line 4 lacks proper antecedent basis.

Claims 6-16 suffer from similar deficiencies. The errors are too numerous for the Examiner to enumerate fully herein. Applicant is required to amend the claims accordingly.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1-10 and 12-16** are rejected under 35 U.S.C. 102(e) as being anticipated by Carpenter (US 6,067,603) (hereinafter Carpenter).
8. As for claim 1, Carpenter discloses a data access method used in a network system having several node devices connected for communications configured so that each node device can execute certain processing by accessing memories in said several node devices or cache memories at a higher access speed (Fig. 1) wherein
- each node device (processing nodes 10a-10d, Fig. 1)
- executing the speculative access to said memories in the system while reading out, from the tag memory, the tag information as the information related to the data storage status in said cache memories provided in the system (col. 7, line 47 – col. 8, line 51), and
- deciding whether or not to abolish the data acquired from said memories by said speculative access according to said tag information read out (col. 8, line 42-51).

Art Unit: 2154

9. As for claim 2, Carpenter discloses a data access method used in a network system having several node devices connected for mutual communications configured so that each node device can execute certain processing by reading out data from memories in said several node devices or cache memories at a higher access speed (Fig. 1) wherein each node device (processing nodes 10a-10d, Fig. 1) executing the speculative readout of the data from said memories in the node devices while reading out, from the tag memory, the tag information as the information related to the data storage status in said cache memories provided in the system (col. 7, line 47 – col. 8, line 51), judging whether the same data as the data subject to said speculative readout is in any of the cache memories based on said tag information read out (col. 7, line 47 – col. 8, line 29), sending said speculative readout data to the processor in the self node device when the same data as the data subject to said speculative readout is not found in any of the cache memories (col. 8, line 31 – col. 11, line 44; Table VIII), and acquiring, when the same data as the data subject to said speculative readout is in one of the cache memories, such data in said cache memory and sending said data to the processor in the self node device (col. 8, lines 42-51; Table VIII).
10. As for claim 3, Carpenter discloses a data access method used in a network system as set forth in claim 2 wherein said speculative readout data is abolished when said data found in the cache memory is acquired and sent to the processor in the self node device (col. 8, line 31 – col. 11, line 44; Table VII).

11. As for claim 4, Carpenter discloses a data access method used in a network system as set forth in claim 2 wherein

each node device speculatively reads out the data from the memory in the self node device while reading out said tag information from the tag memory (col. 7, line 47 – col. 8, line 51; see also col. 4, lines 6-27).

12. As for claim 5, Carpenter discloses a data access method used in a network system as set forth in claim 2 wherein

each node device speculatively reads out the data from the memory in the other node device while reading out said tag information from the tag memory (col. 7, line 47 – col. 8, line 51; see also col. 4, lines 6-27).

13. As for claim 7, Carpenter discloses a network system having several node devices connected by a communication mechanism for mutual communications configured so that each node device can execute certain processing by reading out data from memories in said several node devices or cache memories at a higher access speed (Fig. 1) wherein

each node device (processing nodes 10a-10d, Fig. 1) comprising speculative readout means (TSU 42, Fig. 2) to execute the speculative readout of the data from said memories in the node devices while reading out, from the tag memory, the tag information as the information related to the data storage status in said cache memories provided in the system (col. 7, line 47 – col. 8, line 51),

a judgment means (coherency response logic 56, Fig. 2) to judge whether the same data as the data subject to said speculative readout is in any of the cache memories based on said tag information read out (col. 7, line 47 – col. 8, line 51; col. 9, line 59 – col. 10, line 42), and

a read data processing means (TRU 40, Fig. 2) which sends said speculative readout data to the processor in the self node device when the same data as the data subject to said speculative readout is judged not existing in any of the cache memories and, when the same data is judged existing in one of the cache memories, acquires such data in said cache memory and sends said data to the processor in the self node device (col. 7, lines 1-24; col. 8, line 31 – col. 11, line 44; Tables VII and VIII).

14. Claim 6 is rejected for the same reasons as claim 7 above, because all the limitations of claim 6 are included in claim 7.
15. As for claim 8, Carpenter discloses a network system as set forth in claim 7 wherein said data processing means abolishing said speculative readout data when said data found in the cache memory is acquired and sent to the processor in the self node device (col. 8, line 42-51; Table VII).
16. As for claim 9, Carpenter discloses a network system as set forth in claim 7 wherein said speculative readout means speculatively reads out the data from the memory in the self node device (col. 7, line 47 – col. 8, line 51; see also col. 4, lines 6-27).
17. As for claim 10, Carpenter discloses a network system as set forth in claim 7 wherein said speculative readout means speculatively reads out the data from the memory in the other node device (col. 7, line 47 – col. 8, line 51; see also col. 4, lines 6-27).
18. As for claim 12, Carpenter discloses a computer readable memory storing a data access program for controlling the data access in a network system having several node devices connected for mutual communications configured so that each node device can execute

Art Unit: 2154

certain processing by accessing memories in said several node devices or cache memories at a higher access speed (Fig. 1) wherein

said data access program executing

speculative access processing for the memories in the system while reading out, from the tag memory, the tag information as the information related to the data storage status in said cache memories provided in the system (col. 7, line 47 – col. 8, line 51) and

processing to judge whether or not to abolish the data acquired from said memories by said speculative access according to said tag information read out (col. 8, lines 42-51; Table VII).

19. As for claim 13, Carpenter discloses a computer readable memory storing a data access program for controlling the data access in a network system having several node devices connected for mutual communications configured so that each node device can execute certain processing by reading out data from memories in said several node devices or cache memories at a higher access speed (Fig. 1) wherein

said data access program executing

speculative readout processing to read out the data from said memories in the node devices while reading out, from the tag memory, the tag information as the information related to the data storage status in said cache memories provided in the system (col. 7, line 47 – col. 8, line 51),

judgment processing to judge whether the same data as the data subject to said speculative readout is found in any of the cache memories based on said tag information read out (col. 8, lines 42-51; Table VII), and

Art Unit: 2154

processing when the same data as the data subject to said speculative readout is not found in any of the cache memories to send said speculative readout data to the processor in the self node device (col. 8, line 31 – col. 11, line 44; Tables VII and VIII) and,

processing when the same data as the data subject to said speculative readout is found in one of the cache memories to acquire such data in said cache memory and send said data to the processor in the self node device (col. 8, line 31 – col. 11, line 44; Tables VII and VIII).

20. As for claim 14, Carpenter discloses a computer readable memory storing a data access program for controlling the data access in a network system as set forth in claim 13 wherein said data access program

abolishes said speculative readout data when acquiring the data in said cache memory and send such data to the processor in the self node device (col. 8, line 42-51; Table VII).

21. As for claim 15, Carpenter discloses a computer readable memory storing a data access program for controlling the data access in a network system as set forth in claim 13 wherein said data access program

speculatively reads out the data from the memories in the self node device while reading out said tag information from the tag memory (col. 7, line 47 – col. 8, line 51; see also col. 4, lines 6-27).

22. As for claim 16, Carpenter discloses a computer readable memory storing a data access program for controlling the data access in a network system as set forth in claim 13 wherein said data access program

Art Unit: 2154

speculatively reads out the data from the memories in the other node device while reading out said tag information from the tag memory (col. 7, line 47 – col. 8, line 51; see also col. 4, lines 6-27).

Claim Rejections - 35 USC § 103

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

24. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Carpenter in view of Jhang et al. (US 6,253,292 B1).
25. As for claim 11, Carpenter does not specifically disclose providing a tag memory in the communication mechanism. Jhang teaches providing a tag memory in a communication mechanism (remote cache 417-2, Fig. 4B; col. 5, lines 32-48). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Carpenter by providing a tag memory in the communication mechanism in order to facilitate data transfer between devices and maintain system coherency, as taught by Jhang (remote cache 417-2, Fig. 4B; col. 5, lines 32-48).

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 6,209,065 B1, note DTAG 160, Fig. 1;

Art Unit: 2154

US 6,065,077, note duplicate tag memory, Fig. 5A;

US 6,338,122 B1, note teaches speculative access to memory and simultaneous cache access;

US 6,192,452 B1, note abstract;

US 5,881,303, note use of prefetching (speculative access) to reduce system latency;

US 6,292,705 B1, note abstract.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron C Perez-Daple whose telephone number is (703) 305-4897. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703) 305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 9/21/04
Aaron Perez-Daple

